SEQUENCE LISTING

(1) GENERAL INFORMATION:

    (i) APPLICANT: Gunzburg, Walter H.
                  Salmons, Brian

    (ii) TITLE OF INVENTION: NOVEL RECOMBINANT DNA VECTORS FOR GENE
                           THERAPY

    (iii) NUMBER OF SEQUENCES: 5

    (iv) CORRESPONDENCE ADDRESS:
        (A) ADDRESSEE: HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
        (B) STREET: TWO MILITIA DRIVE
        (C) CITY: LEXINGTON
        (D) STATE: MASSACHUSETTS
        (E) COUNTRY: USA
        (F) ZIP: 02173

    (v) COMPUTER READABLE FORM:
        (A) MEDIUM TYPE: Floppy disk
        (B) COMPUTER: IBM PC compatible
        (C) OPERATING SYSTEM: PC-DOS/MS-DOS
        (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

    (vi) CURRENT APPLICATION DATA:
        (A) APPLICATION NUMBER: US 08/925,214
        (B) FILING DATE: 08-SEP-1997
        (C) CLASSIFICATION:

    (viii) ATTORNEY/AGENT INFORMATION:
        (A) NAME: Brook, David E.
        (B) REGISTRATION NUMBER: 22,592
        (C) REFERENCE/DOCKET NUMBER: GSF97-02

    (ix) TELECOMMUNICATION INFORMATION:
        (A) TELEPHONE: (781) 861-6240
        (B) TELEFAX: (781) 861-9540

(2) INFORMATION FOR SEQ ID NO:1:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 58 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: other nucleic acid
        (A) DESCRIPTION: /desc = "DNA"

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GAACAGCATA TGCAAAATAG ATACAGAGTG CCTTGCGAGA GAGCCTTGAC CAAGTGCA   58

(2) INFORMATION FOR SEQ ID NO:2:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 28 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: other nucleic acid
        (A) DESCRIPTION: /desc = "DNA"

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

CGCAGATCTT AGCTTAAGTA ACGCCATT   28

(2) INFORMATION FOR SEQ ID NO:3:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 25 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: other nucleic acid
        (A) DESCRIPTION: /desc = "DNA"

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

CGCACTAGTT CCGCCAGATA CAGAG   25

(2) INFORMATION FOR SEQ ID NO:4:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: other nucleic acid
        (A) DESCRIPTION: /desc = "DNA"

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

GAGGTACGCA GCGGAACA   18

(2) INFORMATION FOR SEQ ID NO:5:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
        (A) DESCRIPTION: /desc = "DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

TGATGGGCTC ATCCGTTT   18